

AD-780 087

**MICROFICHE STANDARDS AND  
RESPONSIBILITIES**

Defense Intelligence Agency  
Washington, D.C.

27 March 1974

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REGULATION NO. 59-3

HEADQUARTERS, DEFENSE  
INTELLIGENCE AGENCY  
WASHINGTON, D.C. 20301  
27 March 1974

INTELLIGENCE DISSEMINATION/REFERENCE SERVICES

MICROFICHE STANDARDS AND RESPONSIBILITIES

1. PURPOSE: To establish standards for microfiche copies of intelligence documents and indices, coordinate microfiche production, and facilitate microfiche exchange.

2. REFERENCES:

a. Office of Assistant Secretary of Defense (Installations and Logistics) Memorandum, 19 September 1972, subject: Department of Defense Standardization of Microform Systems and Equipment.

b. DIAM 59-1, "Intelligence Dissemination (U)," CONFIDENTIAL/NO FOREIGN DISSEMINATION.

c. DIAI 55-3, "Requests for Secondary Distribution of Intelligence Documents."

d. DoD Directive 5200.1-R, "Information Security Program Regulation," July 1972.

e. DoD Directive 5200.15, "Controlling the Dissemination and Use of Intelligence and Intelligence Information Produced by Members of the Intelligence Community," 26 July 1962.

f. DoD Directive 5200.20, "Distribution Statements on Technical Documents," 24 September 1970.

g. DoD Directive 5400.7, "Availability to the Public of Department of Defense Information," 23 June 1967.

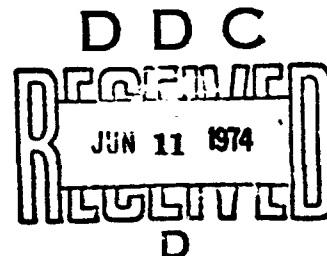
3. APPLICABILITY AND SCOPE: This regulation applies to DoD components producing or requiring microfiche copies of intelligence documents or intelligence indices. It prescribes microfiche format, pagination, and titling; assigns responsibilities for coordination of microfiche production and dissemination; directs submission of duplicate reproducible microfiche masters to DIA; and provides for DIA secondary distribution of microfiche.

OPI: DS-4

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EX-114-22,251/DS-4A

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4. AUTHORITY: This regulation provides intelligence guidance to all DoD components and is issued under the authority delegated in DoD Directive 5105.21, "Defense Intelligence Agency," and amplified in the Defense Intelligence Plan by the Secretary of Defense to the Director, Defense Intelligence Agency.

5. DEFINITIONS: Enclosure 1 contains a glossary of terms frequently used in discussing microfiche.

6. GENERAL: Microfiche are in general use in business, industry, education, government, and the intelligence community. Microfiche are economical to produce and distribute, and if each document is copied on a separate fiche, microfiche is the preferred microform for dissemination of intelligence documents.

a. Coordination of production and exchange of microfiche copies of intelligence documents and indices will be mutually beneficial to members of the intelligence community.

b. Standardization of microfiche format, pagination, and titling will permit intelligence producers and consumers to procure microfiche production and viewing equipment with confidence of future use and eliminate the need for an array of interchangeable lenses and complicated variable reduction mechanisms.

c. Reference 2.a designated the 98-frame (seven row by 14 column) microfiche at nominal 24X reduction the DoD standard microfiche format for camera-created microfiche applications subsequent to 1 November 1972, and for 8 x 10½ inch computer products.

7. STANDARD MICROFICHE: The 98-frame microfiche format is designated the standard microfiche format for camera-created and COM-generated microfiche copies of intelligence documents and indices. Existing microform systems are not required to convert to the 98-frame microfiche format. Nevertheless, systems not in accordance with this standard should be evaluated periodically and the merits of converting to the standard weighed.

8. RESPONSIBILITIES:

a. The DIA Central Reference Division (DS-4) is responsible for:

(1) The overall management of the DoD intelligence microfiche program, to include:

(a) Providing DIA representation for DoD and other microform standard and user group meetings, conferences, and workshops.

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REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER <b>DIAR 59-3</b>	2. GOVT ACCESSION NO.	3. RECIPIENT'S CATALOG NUMBER
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20. ABSTRACT (Continue on reverse side if necessary and identify by block number) <b>Establishes standards for microfiche copies of intelligence documents and indices, coordinates microfiche production and facilitates microfiche exchanges.</b>		

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(b) Serving as the point of contact in the DIA for staffing requests for authorization to reproduce intelligence publications in microform.

(2) The Reference Library Branch (DS-4A) will:

(a) Maintain the centralized collection of reproducible master microfiche copies of intelligence documents and indices.

(b) Provide secondary distribution of microfiche copies of intelligence documents and indices in accordance with reference 2.c.

(3) The Dissemination Branch (DS-4C) will:

(a) Coordinate the production of microfiche copies of intelligence documents.

(b) Control the dissemination of microfiche copies of intelligence documents produced for distribution outside the producing command, using the procedures outlined in reference 2.b.

b. DoD elements producing microfiche copies of intelligence documents or indices will:

(1) Produce camera-created and COM-generated microfiche copies of intelligence documents and indices to the standards outlined in enclosure 2, subject to limitations of production equipment and paragraph 7.

(2) Provide DS-4A a reproducible master microfiche (preferable diazo negative) of each intelligence document produced or copied on microfiche.

(3) Reproduce and distribute microfiche as requested by DS-4C within resource limitations.

c. DoD elements requiring microfiche copies of intelligence documents or indices will:

(1) Submit requirements for initial distribution of microfiche copies of intelligence documents and indices to DS-4C in accordance with reference 2.b.

(2) Submit requirements for secondary distribution of microfiche copies of intelligence documents and indices to DS-4A in accordance with reference 2.c.

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d. The Military Departments, U&S Commands, and Defense agencies will:


(1) Coordinate and supervise the production of microfiche copies of intelligence documents and indices by activities under their cognizance.

(2) Designate a specific point of contact for development, implementation, and management of production of microfiche copies of intelligence documents and indices.

(3) Review and validate requirements for initial and secondary distribution of intelligence documents and indices initiated by their subordinate elements as outlined in reference 2.b and 2.c.

FOR THE DIRECTOR:

OFFICIAL:

  
CLARENCE D. BRISTOL, JR.  
Colonel, USAF  
Assistant Deputy Director  
for Services

RICHARD G. COLLINS  
Brigadier General, USAF  
Chief of Staff

- 2 Enclosures  
1. Glossary  
2. Standards and Format  
for Production of Microfiche

DISTRIBUTION

A205A DMATC	3	P090A NSA (L223)	5
A210A DMAAC	1	P085A Dept. of State	3
A219A DMAHC	1	E420A FTD (DAPE)	2
C749A U.S. Army (DAMI)	375	B342A DS-4	4
D947A U.S. Navy (NAVINTCOM 314)	5	B737A DS-4B	1
E010A U.S. Air Force (7601 AIG (AFIS/INVER))		B344A DS-4C	4
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GO05A CINCONAD	1	B520A DC-3	1
H005A USCINCEUR	4	B746A DC-6C	1
K005A CINCPAC	3	B576A DI-3X	1
M005A USCINCSO	3	B583A DI-3C	1
N005A USCINCRD	1	B599A DI-4X	1
P005A AEC	1	B651A DI-5X	1
P050A CIA (CRS/ADD)	10	B380A DI-6X	1

GL/SSARY

Terms defined herein which are followed by (JCS) have been approved for United States Joint Service usage. Additional material considered necessary to assist in the application of these JCS definitions is set off in brackets [ ]. This material should not be construed as changing or conflicting with the standardized JCS Pub 1 definition.

Column. A vertical series of images on a microfiche.

Computer Output Microfilm (COM). Microfilm generated by computer. Normally the data is copied from the cathode ray tube (CRT) on reversal silver film.

Copy. The product obtained from reproducing an original.

Cutting Mark. Mark added to the original film at the time of microfilming to permit automatic cutting of microfiche (sheet of film) from a roll of film.

Density. The degree of opacity of film and the blackness of paper prints.

Diazo Material. Film or paper sensitized by means of diazonium salts, which subsequent to exposure to strong blue to ultraviolet light and development, forms an image. Diazo material generally produces nonreversible images, i.e., a positive image will produce a positive image and a negative image will produce a negative image.

Direct Image Film. A film that will retain the same polarity as the previous generation or the original material; that is, tone for tone, black for black, white for white, negative for negative, or positive for positive with conventional processing.

Distribution Copies. Microfilm copies, usually second or third generation produced from camera microfilm or intermediates for distribution to points of use. Copies may be silver, diazo, or vesicular, film.

Document. A written, typed, or printed paper, photograph, or other object to be copied.

Dry Silver Film. A non-gelatin silver film which is developed by application of heat.

Duplicate. A copy usually made by contact printing from a master or an intermediate.

Emulsion. A single or multi-layered coating of gelatinous material on a transparent base carrying radiant energy reactive chemicals that create a latent image upon exposure. Processing techniques produce a final, visible, usable image.

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Enlargement. A reproduction larger than the original or the intermediate.

Enlarger-Printer. A machine which projects an enlarged image from microfilm, develops, and fixes the image on a suitable material.

Fiche. Shortened form of term microfiche, which was created by combining micro (meaning little or small) with French word fiche (meaning library index card). Microfiche refers to 20 and 24X reductions; superfiche refers to 42 and 48X reductions; and ultrafiche refers to reduction over 100X.

Film. Any sheet or strip of transparent plastic coated with a light-sensitive emulsion.

Frame. (JCS) In photography, any single exposure contained within a continuous sequence of photographs. [The area of photographic film exposed to light in a camera during one exposure, regardless of whether or not the area is filled by the document image. Frames are 10 x 12.5mm for 98-frame microfiche.]

Generation. Camera film is termed first generation microfilm. Copies made from first generation film are second generation, and copies from second generation are third generation, etc. Arabic numerals are used to indicate the generation while the letters N and P indicate whether the image is negative or positive appearing. Numbers and letters are combined to indicate the generation and the image. Thus, 1N is first generation negative, 2P is second generation positive, and 2N is second generation negative.

Graphic. Data in the form of pictorial communications, as for example, drawings, charts, engineering designs, and plotted data.

Grid Gauge. An inspection tool which is used to check the position of images on microfiche.

Gutter. The combined marginal space formed by the two inner margins of confronting pages of a book.

Hard Copy. A paper copy, frequently an enlarged copy from microfilm.

Heading. Inscription placed at the top of the microfiche to identify its contents. It is readable without magnification.

Heading Backing (Title Backing). A material or treatment which is applied to the back of the title area of microfiche so that the title can be more easily read by reflected light.

Image. A representation of an object such as a document or other information sources produced by light rays.

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Information Area. The area of a document which contains information usually exclusive of the margin.

Intermediate. A microfilm or other reproducible used to make distribution copies; microfilm intermediates are usually made from camera microfilm.

Margin. The non-image area outside the margins of the document but within the frame.

Master. A copy of a document, or in some processes the original itself, from which copies can be made. Sometimes called reproducible master.

Microcopy. A copy obtained by photography in a size too small to be read without magnification.

Microfilm. Film containing an image greatly reduced in size from the original.

Microfiche. A sheet of microfilm containing multiple microimages in a grid pattern. It contains a title which can be read without magnification.

Microform. A generic term for any form, either film or paper, which contains microimages.

Micrographics. The industry which reduces any form of information to a microform.

Microimage. A unit of information, such as a page of text, drawing, or a photograph, too small to read without magnification.

Micropublishing. To publish material in microform.

Negative. A photographic image with light lines, characters, and neutral tones on a dark background.

Original. The document from which copies are produced.

Packed Fiche. Microfiche containing more than one document. Concept involves grouping similar documents to fill available space. Unitized fiche have only one document for each fiche, leaving many frames vacant. Packing is economical but complicates distribution when fiche are disseminated according to contents.

Pagination. A term referring to the arrangement of pages or images of pages on microfilm.

Polarity. A word used to indicate the change or retention of the dark to light relationship of a image, i.e., a first generation negative to a second generation positive indicates a polarity change while a first generation negative to a second generation negative indicates the polarity is retained.

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Positive. A photographic image with dark lines, characters, and neutral tones on a light background.

Print. To produce a reproduction or copy on photographic film or paper.

Processing. The treatment of exposed photographic material to make the latent image visible; i.e., for silver emulsion films, a series of steps consisting of developing, fixing, washing, and drying.

Reduction. (JCS) The production of a negative, diapositive, or print at a scale smaller than the original. [A measure of the number of times a given linear dimension of an object is reduced when photographed, expressed as 20X, 24X, or 48X reduction, etc.]

Reproducible Master. An intermediate carefully made with minimum resolution loss/density variation from original silver master for reproduction. Emphasis on quality control. Retains polarity if camera microfilm was negative; reverses polarity if camera film was positive (e.g., COM product). Heading backing is omitted for reproduction.

Resolution. The ability of the optical systems and photographic materials to render visible fine detail of an object; a measure of the sharpness of an image, expressed as the number of lines per millimeter discernible in an image. Resolution in processed microfilm is a function of film emulsion, exposure, camera lens, camera adjustment, camera vibration, and resolution test chart under a microscope to determine the smallest pattern in which lines can be distinguished both horizontally and vertically.

Row. A horizontal series of microimages on microfiche.

Set. Two or more microfiche containing one unit of information. Lengthy documents require multiple fiche. When documents are unitized, the fiche should be clearly marked as to the number in the set; e.g., 1 of 1, 1 of 4, 4 of 4.

Silver Film. A film which is coated with a silver halide emulsion.

Trailer Microfiche. When a document is microfilmed on microfiche and the total number of pages exceeds the image area capacity of a single microfiche, the succeeding images are recorded on additional microfiche called "trailer microfiche."

Unitize. To microfilm each unit of information, such as each report or publication, on separate microfiche or separate sets of microfiche.

Vesicular Film. Film with the light sensitive element suspended in a plastic layer; exposure creates strains within the layer in the form of a latent

ENCLOSURE 1

4,1

image. The strains are released and the latent image made visible by heating the plastic layer resulting in the formation of minute bubbles or vesicles. The image becomes permanent when the layer cools. Vesicular film is reversing, producing a negative image from a positive image.

Viewer. A projection device for viewing an enlarged microimage with the unaided eye. Sometimes called a reader.

Viewer-Printer. A machine which combines the functions of a viewer and an enlarger-printer. Sometimes called a reader-printer.

## STANDARDS FOR MICROFICHE COPIES OF INTELLIGENCE DOCUMENTS

1. **SCOPE:** These standards cover camera-created and COM-generated microfiche copies of intelligence documents and indices. Conversion of existing microform systems are not required. However, production of microfiche to these standards will facilitate exchange of microfiche within the intelligence community and minimize consumer equipment requirements.

2. **FORM:** Microfiche copies of intelligence documents and indices will be produced to conform with DoD, national, and international standards for 98-frame microfiche where applicable.

a. **Sheet Size.** The external dimensions will be 105mm by 148mm (4" x 6"). Tolerances are plus 0mm in both dimensions or minus 0.75mm for the shorter dimension or minus 1.00mm for the longer dimension.

b. **Orientation.** The longer dimensions are designated the top and bottom. The shorter dimensions are designated the sides. The bottom is the reference edge and the bottom left corner is designated the reference corner. The sensitive layer is toward the beholder.

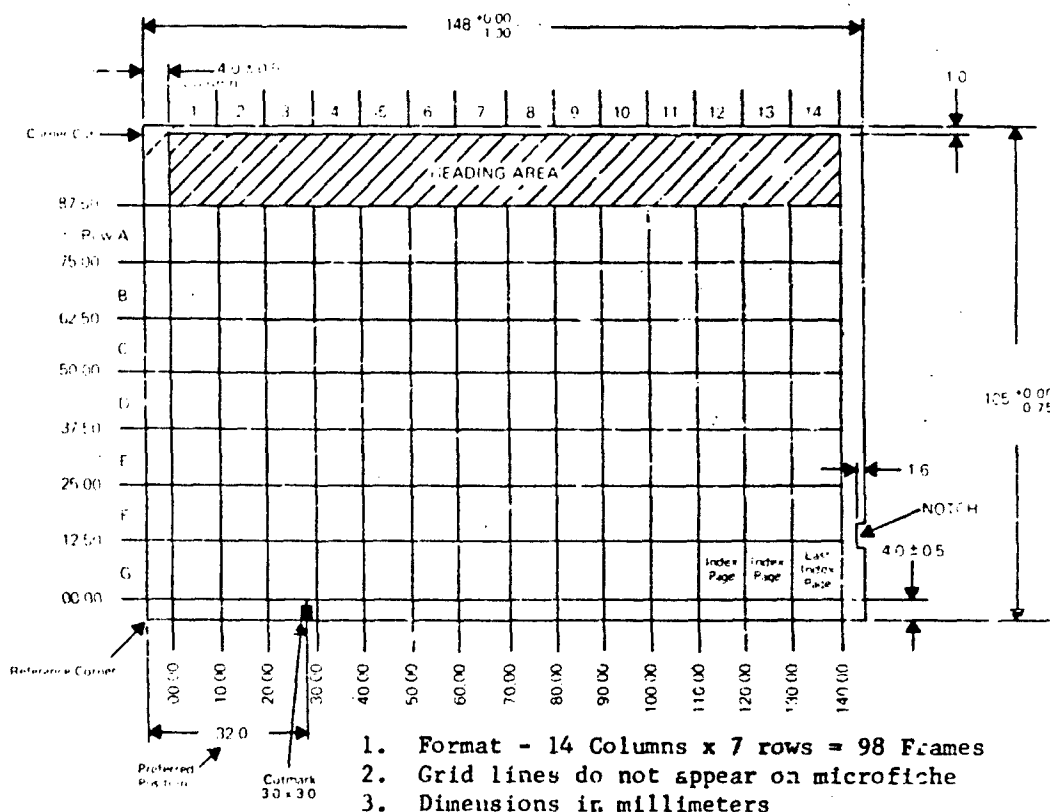


Figure 1

ENCLOSURE 2

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c. Corner Cut. The top left corner may be cut as shown in figure 1 to facilitate orienting microfiche in files and viewers.

d. Film Stock. Only safety film stock as defined by American National Standard PH1, 25-1969, or latest revision thereof, will be used for microfiche.

e. Film Thickness. The gross film thickness exclusive of heading backing will be:

(1) For Cellulose Acetate Base: 0.13mm - 0.23mm (0.005" - 0.009")

(2) For Polyester Base: 0.10mm - 0.23mm (0.004" - 0.009")

f. Heading Backing. An opaque or semi-opaque backing for the heading area is optional. If used, it will not increase the thickness more than 0.01mm.

g. Rectangularity. Each side of the microfiche will be perpendicular to the bottom (reference) edge within  $\pm 0.13\text{mm}$  (0.005") for each 25mm of height.

h. Cutting Mark. A cutting mark to provide for automatic cutting of processed roll film into microfiche is optional. If used, the cutting mark will be a 3.0mm square, and the center of the cutting mark will be located on the bottom edge  $32.0 \pm 0.2\text{mm}$  from the left corner.

i. Sensitive Layer Notch. The use of a notch to identify the sensitive layer is optional. If used, the notch will be on the right edge near the bottom corner where the microfiche is oriented as shown in figure 1. The notch is useful for orienting sheet film when duplicating fiche. When sheet film is oriented with the longer dimension in the vertical and the notch in the top right corner, the sensitive layer is toward the beholder. If used, the notch will comply with American National Standard PH1, 19-1969, or the latest revision thereof.

j. Corner Rounding. Rounding of corners is optional. If rounded, the process will not remove more than 3mm of either of the two edges forming the corner.

3. FORMAT: The 98-frame microfiche format is depicted in figure 1. There is a 12.5mm x 100mm heading area. Below the heading area there are seven rows and 14 columns containing 98 frames. Each frame is 12.5mm x 10mm. There is a 4mm margin along the bottom and both sides for cutting mark, sensitive layer notch, and corner rounding. The top margin is 1mm.

a. Frame Identification. The first row below the heading area is designated row A, the second row B, and so on. The first column adjacent

to the left edge is designated column 1, the second column 2, and so on. The row and column identifiers are combined to identify the frame. Thus, C4 is the third row and the fourth column.

b. Centering. Microimages will be centered within the frame. Where confronted pages of bound volumes are photographed, the gutter will be centered within a double frame.

c. Reduction. Typed and printed letter-size documents (203 x 279mm, 8 x 11 inches) with elite (10 point) or larger size type will be copied at 24X reduction. Larger documents may be filmed at greater than 24X reduction provided the document will be legible when blown-back with nominal 24X viewing equipment. Documents with small lettering or requiring high resolution may be filmed at lower than 24X reduction in order to improve legibility when blown-back with nominal 24X viewing equipment.

d. Sectionalizing. Documents that are too large to fit in one frame must be sectionalized. When documents are sectionalized, there will be at least 1 inch overlap and the sequence of filming will be from left to right and top to bottom.

DDS-73-B200-000001	DDI-01-250-001-73	DIA	9 Aug 1973
CONFIDENTIAL	(U) AIRCRAFT RECOGNITION GUIDE ISLANDS OF THE		
XGDS (3)	PACIFIC AND INDIAN OCEAN		

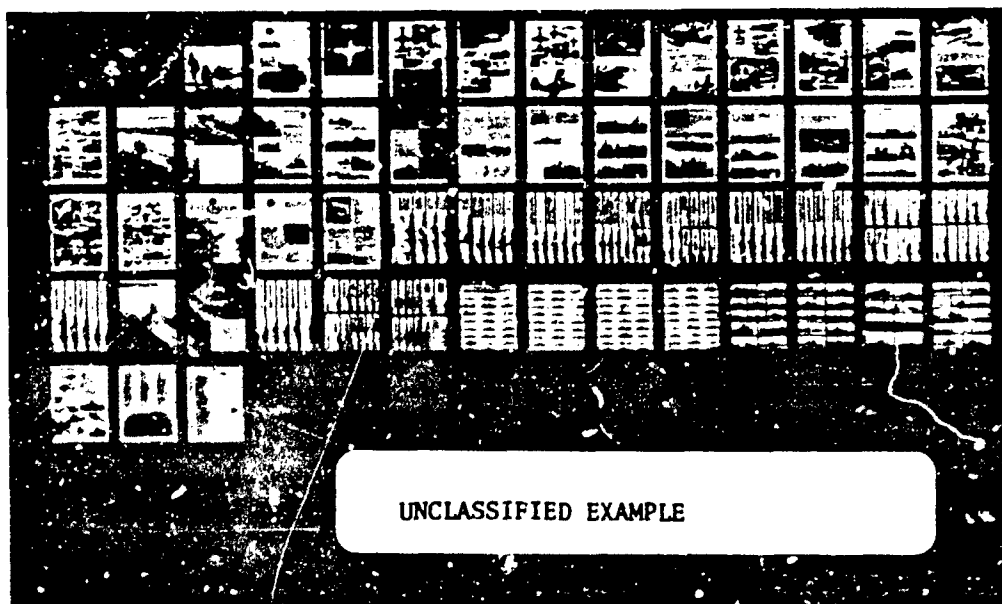


Figure 2

e. Heading Area. The area reserved for the heading is shown in figure 1. If additional heading area is required, the area dedicated to the next entire row of images will be used. Row identification is unchanged by the use of one or more rows for additional heading area. If row A is used for additional heading, the first row of images would be on row B.

5. HEADING: Each microfiche will have a heading that is readable without magnification. Included in the heading will be a unique microfiche identifier, the security classification, and descriptive data for the copied document as depicted in figure 2.

a. Unique Identifier. Each microfiche will have a unique identifier as the first data element of the first line of the heading. The identifier will consist of a producer identifier, the two-character year of production, a four-character series identifier, and the six-digit sequence number within the series, separated by hyphens.

(1) Producer Identifier. The producer identifier will be the identifier used for identification of intelligence products, as outlined in DIAM 57-1, "General Intelligence Production (U)," CONFIDENTIAL.

(2) Series Identifier. The microfiche producer may establish series identifiers to distinguish between microfiche produced for various purposes. Separate series should be established for compartmented (SI/SAO) intelligence materials and it may be expedient to establish separate series for information reports, intelligence publications, and open-source materials.

b. Security Classification. The security classification of the microfiche will appear directly under the unique identifier. Abbreviations for downgrading and special handling instructions will appear under the security classification if feasible.

(1) Backing Strip. If an opaque or semi-opaque backing strip is used for the heading, the backing strip will be color coded to indicate the security classification/protective marking, if feasible, using the following color code:

<u>Classification/Protective Marking</u>	<u>Color Code</u>
Unclassified	White
For Official Use Only	Green
Confidential	Blue
Secret	Red
Top Secret	Yellow

(2) Abbreviations. The following abbreviations may be used in the heading to indicate downgrading and control markings:

(a) Downgrading Instructions (DoD Directive 5200.1R):

ADS (date) - Advanced Declassification Schedule

GDS (date) - General Declassification Schedule

XGDS (number of exemption category) - for exemption cases

(b) Control Markings (DoD Directive 5200.15):

BUO - Background Use Only

CD - Controlled Dissem

NDA - No Dissem Abroad

NFD - No Foreign Dissem

WN - Warning Notice - Sensitive Intelligence Sources and Methods Involved

(c) Distribution Limited (DoD Directives 5200.20 and 5400.7):

US GOV'T USE ONLY - FOR OFFICIAL USE ONLY and distribution limitation statements on scientific and technical documents

The use of the above abbreviations assumes that the control markings are fully spelled out on the microfilmed document. The presence of the abbreviations is to alert personnel to the requirement for special handling.

(3) Compartmented Materials. Row A may be used to provide additional heading area for security and handling markings for compartmented (SI/SAO) materials.

c. Document Description. The right 100mm (4 inches) of the heading area is reserved for the short title, producer, date of document, classification of title, and title of the copied document. In the event it is not feasible to create the title and related descriptive data, the title space will be used to identify the type of documents on the microfiche and the system creating the microfiche.

(1) Short Title. The short title (unique document identifier) will appear on the top line with the first character commencing 100mm (4 inches)



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from the right edge. DIAM 57-1 outlines the short title identification system for general intelligence publications. The information report number is the short title for information reports.

(2) Document Date. The date of the document will be the last entry on the top line of the heading.

(3) Document Producer. The producer of the document will be shown between the short title and the date, if feasible, using abbreviations and acronyms when appropriate.

(4) Title. The title of the document, preceded by the abbreviation for the security classification of the title in parenthesis, will commence on the second line of the heading under the short title. If it is necessary to truncate the title, ellipses "...." are to be used.

d. Trailer Microfiche. When trailer microfiche are required, the heading will be repeated on each microfiche in the set.

6. PAGINATION: The microimages will be sequenced for viewing from left to right and from top to bottom. Pagination will be for the convenience of the viewer rather than the microfiche producer. Therefore, documents will be right reading when copied on the assumption the ultimate user has an inexpensive viewer without image rotation.

a. The first frame of the first row of images will contain the security classification of the copied document with lettering that is readable without magnification and suitable for blowback as a cover sheet.

b. The second frame of the first row of images will contain the microfiche identification number and the number of fiche in the set in lettering that is readable without magnification. It will also indicate the number of fiche in the series. Resolution targets and scales for determining magnification are encouraged.

c. The first information area (cover or first page) of the copied document will appear in the third frame of the first row of images with succeeding images recorded in sequence from left to right and from top to bottom.

d. The index to the copied document is filmed in its sequence within the document. If an additional index is prepared, it will follow the last image of the copied document, and it should be provided on each fiche for convenience.

e. The security classification, which appeared in the first frame of the first row of images, will be repeated in the first frame after the last frame of the copied document (last frame of the index for documents with an index).

ENCLOSURE 2

6.2

f. The frame after the security classification will contain the filming date (maintenance date in the case of revised fiche) and the word "End" (the word "Continued" for the first and intermediate fiche in a set) in letters that are readable without magnification. The inclusion of resolution targets in this frame is encouraged.

g. The inclusion of resolution targets is encouraged for materials requiring high resolution. When there is photography or graphic material and when scale is of importance, provide a full frame resolution target with a scale in the third frame and start copying the document in the fourth frame.

7. LETTERING: Large simple lettering facilitates handling and use. Avoid clutter in the heading and strive for ease in routing and filing.

a. Titling capabilities vary widely from camera to camera, from camera to COM unit, and from COM unit to COM unit. Lettering that allows three lines in the heading (10 point) is preferred. If larger lettering is unavoidable and it is necessary to limit the heading to two lines, unique identifier, security classification, short title, and title are the most important elements in the heading. Lettering smaller than 4.5 point should never be used.

b. Lettering in the body of the fiche that is intended to be readable without magnification, such as the security classification and the unique microfiche identifier, must be at least 1 3/4 inches in height for nominal 24X reduction. Lettering of the security classification and unique microfiche identifier must be large enough for quality control personnel to confirm that the heading and copied document have been correctly matched.